ABSTRACT OF THE DISCLOSURE

A Cu interconnection in a semiconductor device has an ununiform profile of additive metal atoms wherein the additive metal atoms are rich in the vicinities of bottom and side surfaces of the Cu interconnection. The Cu interconnection also has an ununiform silicon profile wherein additive silicon atoms are rich in the vicinity of the top surface of the Cu interconnection. The structure improves the electro-migration resistance and the stress-migration resistance of the Cu interconnection.